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BACON & THOMAS, PLLC			EDWARDS, PATRICK L.	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/574,665	<b>Applicant(s)</b> GIERING, THOMAS
	<b>Examiner</b> Patrick L. Edwards	<b>Art Unit</b> 2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 04 April 2006.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-20 is/are rejected.  
 7) Claim(s) 1-18 and 20 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 04 April 2006 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement (PTO-1466)  
     Paper No(s)/Mail Date 04-04-2006 & 09-25-2007
- 4) Interview Summary (PTO-413)  
     Paper No(s)/Mail Date: \_\_\_\_\_  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. The following sections of 37 CFR §1.75(a) and (d)(1) are the basis of the following objection:

(a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

(d)(1) The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.

2. Claims 1-18 and 20 are objected to under 37 CFR §1.75(a) and (d)(1) as failing to particularly point out and distinctly claim the subject matter that the applicant regards as the invention.

Regarding claim 1, the "plurality of measuring tracks" are recited with what appears to be no connection to the apparatus recited in the preamble. Are the measuring tracks a part of the evaluation unit? Further referring to claim 1, the claim recites that "values of the luminescence radiation *may be* captured". This limitation is indefinite in that it is not even clear whether it is in fact a limitation. Are the luminescence values captured? Or not?

Claims 2-18 are indefinite because the indefiniteness of claim 1 trickles down and touches each of the claims that depend therefrom.

Claim 3 is indefinite in that the claim is plainly inconsistent with the independent claim from which it depends. Claim 1 recites evaluation on the basis of integrated luminescence measuring. Claim 3 recites that the evaluation is on the basis of not-integrated measured values. How can these two limitations co-exist?

Claim 7 is indefinite in that it is plainly inconsistent with the independent claim from which it depends. Claim 1 recites that the measuring tracks are oriented transversely across the document. Claim 7 recites that the tracks are parallel to the transport direction, which is an angle perpendicular to the track oriented transversely across the document. Applicant is invited to amend either claims 1 or 7 to clarify what is meant by transversely in claim 1 and/or by parallel to a transport direction in claim 7. For purposes of applying prior art the Examiner will adopt the interpretation of claim 1 that the tracks are transverse across the document because a different interpretation would be inconsistent with the independent claim.

Claim 8 does not appear to further limit the claim from which it depends. How could two parallel tracks on a bank note be anything other than overlapping or spaced apart?

Claim 9 is indefinite on several different levels.

- For one, what does the term "total dimension" mean?
- Secondly, the reference to "tracks perpendicular to the integration direction" has no antecedent basis. The tracks recited in claim 1 are all oriented in the same direction, and the measured values of the tracks are integrated. No reference is made to tracks running perpendicular to these tracks. Is the "integration direction" something other than the direction of the tracks whose values are integrated?
- The Examiner will interpret the phrase "less or more than half" as excluding only the value equal to exactly 50%.
- The second recitation of the term "total dimension" is no more definite than the first. What does "total dimension" mean?
- For reasons likely caused by the myriad issues discussed directly above, it is unclear what the term "in the same direction" is supposed to modify.

Regarding claim 10, this claim does not appear to further limit the claim from which it depends. The Examiner is unaware of a type of illumination that would not be considered either "continuous" or "pulsed".

Regarding claim 11, the claim will be interpreted to mean that the measuring is done along the track direction. An interpretation that includes measuring being done perpendicular to the track direction would be inconsistent with claim 1.

Regarding claim 12, see the above remarks with respect to claim 11.

Regarding claim 14, it is unclear what "either or both the sensor device" is intended to mean. Is there another sensor device?

Regarding claim 16, the recitation of "more than about 1000 nanometers" is redundant. The claim is recited in the Markush claim format, meaning that the limitations are recited in the alternative. A wavelength range of greater than 1000 nanometers is also greater than 800 nanometers. Additionally, how close to 800 nanometers would a wavelength need to be before it would qualify as "about 800 nanometers"?

Regarding claim 17, the term "additional state sensor" is inconsistent with the valid interpretation of the claim – because the claim is written with alternative language – that there is only a single state sensor.

Regarding claim 20, this claim makes no sense. The Examiner has no idea what the recited language is intended to convey. What is it that is being randomly distributed?

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the "plurality of measuring tracks" are recited with what appears to be no connection to the apparatus recited in the preamble. Are the measuring tracks a part of the evaluation unit? Further referring to claim 1, the claim recites that "values of the luminescence radiation *may be* captured". This limitation is indefinite in that it is not even clear whether it is in fact a limitation. Are the luminescence values captured? Or not?

Claims 2-18 are indefinite because the indefiniteness of claim 1 trickles down and touches each of the claims that depend therefrom.

Claim 3 is indefinite in that the claim is plainly inconsistent with the independent claim from which it depends. Claim 1 recites evaluation on the basis of integrated luminescence measuring. Claim 3 recites that the evaluation is on the basis of not-integrated measured values. How can these two limitations co-exist?

Claim 7 is indefinite in that it is plainly inconsistent with the independent claim from which it depends. Claim 1 recites that the measuring tracks are oriented transversely across the document. Claim 7 recites that the tracks are parallel to the transport direction, which is an angle perpendicular to the track oriented transversely across the document. Applicant is invited to amend either claims 1 or 7 to clarify what is meant by transversely in claim 1 and/or by parallel to a transport direction in claim 7. For purposes of applying prior art the Examiner will adopt the interpretation of claim 1 that the tracks are transverse across the document because a different interpretation would be inconsistent with the independent claim.

Claim 8 does not appear to further limit the claim from which it depends. How could two parallel tracks on a bank note be anything other than overlapping or spaced apart?

Claim 9 is indefinite on several different levels.

- For one, what does the term "total dimension" mean?
- Secondly, the reference to "tracks perpendicular to the integration direction" has no antecedent basis. The tracks recited in claim 1 are all oriented in the same direction, and the measured values of the tracks are integrated. No reference is made to tracks running perpendicular to these tracks. Is the "integration direction" something other than the direction of the tracks whose values are integrated?
- The Examiner will interpret the phrase "less or more than half" as excluding only the value equal to exactly 50%.
- The second recitation of the term "total dimension" is no more definite than the first. What does "total dimension" mean?
- For reasons likely caused by the myriad issues discussed directly above, it is unclear what the term "in the same direction" is supposed to modify.

Regarding claim 10, this claim does not appear to further limit the claim from which it depends. The Examiner is unaware of a type of illumination that would not be considered either "continuous" or "pulsed".

Regarding claim 11, the claim will be interpreted to mean that the measuring is done along the track direction. An interpretation that includes measuring being done perpendicular to the track direction would be inconsistent with claim 1.

Regarding claim 12, see the above remarks with respect to claim 11.

Regarding claim 14, it is unclear what "either or both the sensor device" is intended to mean. Is there another sensor device?

Regarding claim 16, the recitation of "more than about 1000 nanometers" is redundant. The claim is recited in the Markush claim format, meaning that the limitations are recited in the alternative. A wavelength range of greater than 1000 nanometers is also greater than 800 nanometers. Additionally, how close to 800 nanometers would a wavelength need to be before it would qualify as "about 800 nanometers"?

Regarding claim 17, the term "additional state sensor" is inconsistent with the valid interpretation of the claim – because the claim is written with alternative language – that there is only a single state sensor.

Regarding claim 20, this claim makes no sense. The Examiner has no idea what the recited language is intended to convey. What is it that is being randomly distributed? If it is the feature substances on the bank note that are randomly distributed, then how does this limit the claim in any way?

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The claim recites a method for checking documents of value. How could a characteristic of the document to be checked act as a further limitation on a method for checking the document?

**A brief note about interpretation:**

Further regarding claims 9 and 20, the Examiner is not able to come up with a reasonable interpretation for the claim. In accordance with Office policy, the Examiner always makes an effort to apply an interpretation to a claim -- though it may be indefinite -- so that prior art can be applied to the claim and piecemeal examination avoided. However, Office policy—as memorialized in MPEP 2173.06—further recognizes that in some instances applying an interpretation simply isn't possible, and states that in those situations:

*where there is a great deal of confusion and uncertainty as to the proper interpretation of the limitations of a claim, it would not be proper to reject such a claim on the basis of prior art. As stated in *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962), a rejection under 35 U.S.C. 103 should not be based on considerable speculation about the meaning of terms employed in a claim or assumptions that must be made as to the scope of the claims.*

Thus, claims 9 and 20 will not be rejected below under 35 U.S.C. 103

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 6-8, 10, 15, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,189,235 ("Guter") in view of USPN 7,426,291 ("Okamura")

Regarding claims 1 and 19, Guter discloses:

- An apparatus for checking of documents of value with luminescent feature substances [Guter describes checking bank-notes, which are documents of value and which includes "luminescent feature substances" as they are described in the instant application (i.e. a substance consisting of one single component or of a mixture of a plurality of components, which show a luminance behavior). Indeed, it is difficult to envision a bank-note that lacked "luminescent feature substances"].

- illuminating apparatus for illuminating the document of value [see Figures 1 and 2].
- a sensor device for measuring the luminescence radiation emitted by the illuminated document of value [See reference to "sensor unit 10" throughout the Guter specification].
- an evaluation unit for carrying out the checking on the basis of the measured values of the sensor device [See col. 5, line 54].
- At least one measuring track along with a plurality of measured values of the luminescence radiation are captured, said track extending transversely across the document of value [See col. 1, lines 63-69: "...by means of a transmit unit containing a light source, various areal units are continuously illuminated along a track extending parallel in relation to the longitudinal edge of the bank note". A track extending parallel in relation to a longitudinal edge extends transversely.].
- wherein the evaluation unit is arranged to carry out the evaluation on the basis of an integrated luminescence measuring, which is obtained by integrating the measured values of the respective measuring track [See the function performed by the integrator 30 of Guter, described, for example, at col. 5, lines 54-62].

As discussed above, Guter discloses a single measuring track and thus fails to expressly disclose a plurality of measuring tracks extending transversely across the document of value. Okumura, on the other hand, discloses capturing data along a plurality of measuring tracks extending transversely across the document [See Okumura Figure 3 with specific reference to T and T'].

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify Guter by adding additional measuring strips as taught by Okumura. Such a modification would have allowed for the consideration of more luminescence information and therefore resulted in a more robust document checking apparatus.

Regarding claim 2, which depends from claim 1, Guter discloses:

An evaluation unit is arranged to obtain the integration of the measured values by an addition of a plurality of discrete measured values of the luminescence radiation [See Guter col. 5, lines 54-62].

Regarding claim 3, which depends from claim 1, Guter discloses

An evaluation unit arranged to carry out the evaluation both on the basis of the integrated luminescence measuring, and not-integrated measured values of the luminescence radiation corresponding to different spatial areas of the respective measuring track [See Guter col. 5, lines 54-62].

Notwithstanding the indefiniteness issues discussed above with respect to this claim, if the claim were interpreted as requiring that the evaluation is carried out on the basis of not-integrated corresponding to different spatial areas of a measuring track, this limitation is not expressly disclosed in Guter but is disclosed in Okamura [See Okamura col 8 - col. 9 and elsewhere throughout the Okamura disclosure where evaluation is performed on the basis of not-integrated measured values of luminescence radiation which corresponds to different spatial areas of the respective measuring tracks T and T'].

It would have been obvious to a person having ordinary skill in the art at the time of the invention to add in a method of looking at specific spatial areas of a measured track rather than merely the integrated values of the entire track. Such a modification would have allowed for a more robust system operable to make determinations regarding documents of value on the basis of various characteristics of those documents.

Regarding claim 6, which depends from claim 1, Guter further discloses an apparatus is arranged to check documents of value having different luminescent feature substances which are contained individually or in combination in the document of value, and the evaluation unit is adapted as to be able to determine either or both of whether one of the different feature substances is contained in the checked document of value and which of the different feature substances is contained in the checked document of value [See Guter generally]. Furthermore, Okamura describes this limitation as well [See Okamura generally].

Regarding claim 7, which depends from claim 1, Guter further discloses a transport apparatus for transporting past the illuminating apparatus and the sensor device, and the sensor device is arranged to carry out the integrated luminescence measuring along a track extending in transport direction [Guter col. 3 lines 28-29].

Regarding claim 8, which depends from claim 1, the combination of Guter and Okamura disclose a sensor device adapted to measure along a plurality of parallel tracks which either or both overlap each other and are spaced-apart from each other [See, e.g., Okamura Figure 3].

Regarding claim 10, which depends from claim 1, the combination of Guter and Okamura disclose that the illuminating apparatus produces a continuous illumination [Guter col. 1, lines 65-67].

Regarding claim 15, which depends from claim 1, the combination of Guter and Okamura discloses a time-resolved evaluation of the integrated luminescence measuring [See Guter col. 7, lines 7-12: The short flashes from the LEDs is a time-resolved evaluation.].

Regarding claim 17, which depends from claim 1, Gutter discloses a state sensor that checks the state of the document of value (i.e., Gutter determines whether the document is in a state of suitability for continued circulation).

Regarding claim 18, which depends from claim 1, the combination of Guter and Okamura disclose a device for depositing and paying out bank notes [See Okamura, Background].

7. Claims 4, 5, 12, and 16 are rejected under 35 USC 103 as being unpatentable over the combination of Guter and Okamura as applied above with respect to independent claim 1, and further in view of USPN 6,741,727 ("Hirasawa").

Regarding claim 4, which depends from claim 1, the combination of Guter and Okamura fails to expressly disclose performing a broadband evaluation of the spectral distribution of the integrated luminescence measuring.

Hirasawa, on the other hand, does disclose an evaluation unit which arranged to carry out a broadband evaluation of the spectral distribution of the integrated luminescence measuring [See Hirasawa col. 5 line 55 - col. 6 line 35, which describes carrying out a broadband evaluation of the spectral distribution of measured luminescence values.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify Guter by adding an evaluation of the spectral distribution of measured luminescence values. Such a modification would have allowed for an additional way of determining characteristics of a document of value.

Regarding claim 5, which depends from claim 1, all of the limitations are discussed in the above discussion with respect to claim 4.

Regarding claim 12, which depends from claim 1, the combination of Guter and Okamura discloses a sensor device that carries out a value measurement integration operation along a track direction. The combination of Guter and Okamura, however, fails to expressly disclose that the integration is of spectral values.

Hirasawa, on the other hand, discloses using infrared radiation to measure the reflectance values and thus discloses making the determination on the basis of spectral characteristics [See Hirasawa col. 5 line 40 - col. 7 line 20 & col. 10 lines 20-35].

Regarding claim 16, Hirasawa discloses performing an evaluation in a wavelength range over 800nm [See Hirasawa col. 5 lines 55-60].

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8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Guter and Okamura as applied above with respect to independent claim 1, and further in view of USPN 6,636,624 ("Raterman").

Notwithstanding the proper rejection of claim 7 in view of the indefiniteness issues raised above and the consequent claim interpretation, this claim, if amended to remove the indefiniteness problem, would still be obvious in view of the aforesaid combination. Raterman discloses measuring tracks which are parallel to the transport direction of the document [See Figures 1(a)-1(c) of Raterman and the accompanying description]. It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the combination of Guter and Okamura by adding in that the measuring tracks are parallel to the transport direction as taught by Raterman. Such a modification would have allowed for the documents to be transported in either direction, which makes a more robust document-checking system.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Guter and Okamura as applied above with respect to independent claim 1, and further in view of EP 0 744 716 A2 ("Cummings").

The combination of Guter and Okamura fails to expressly disclose using a plurality of sensors, with each sensor being adapted to measure one individual track. Cummings, on the other hand, discloses this limitation [See Cummings col. 2, lines 16-30].

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the combination of Guter and Okamura by adding plural sensors corresponding to plural tracks as taught by Cummings. Such a modification would have allowed for a faster document checking system in that different areas of the document could be sensed simultaneously.

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Guter and Okamura as applied above with respect to claim 1, and further in view of USPN 6,974,623 ("Schwenk").

The combination of Guter and Okamura fails to expressly disclose a sensor device which comprises a plurality of sensors which have different spectral behaviors and the illuminating apparatus comprises a plurality of light sources which have different spectral behaviors. Schwenk, on the other hand, discloses a sensor with both light sources and sensors and having different spectral behaviors [See Schwenk col. 5, lines 33-59].

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the combination of Guter and Okamura by adding in a sensor that both emitted and sensed with different spectral behaviors. Such a modification would have resulted in document checking apparatus that could properly detect different types of mottled fibre types in a document.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Guter and Okamura as applied above with respect to independent claim 1, and further in view of GB 2122743A ("Bergstrom").

The combination of Guter and Okamura fail to expressly disclose a spatially-resolved evaluation of the integrated luminescence measuring. Bergstrom, on the other hand, explicitly describes a spatially-resolved evaluation (see Bergstrom pg. 2, lines 66-105).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the combination of Guter and Okamura by performing a spatially-resolved evaluation as taught by Bergstrom. Such a modification would have allowed a well-known method of checking a document of value.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- USPN 5,678,677 ("Baudat")
- USPN 7,330,606 ("Yahkini")
- US Pat. Pub. No.: 2001/0014169 ("Liang")
- USPN 3,679,314 ("Mustert")
- USPN 4,650,319 ("Stenzel")
- USPN 6,363,164 ("Jones")

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L. Edwards whose telephone number is 571-272-5371. The examiner can normally be reached on M-F, 9am-5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patrick L. Edwards

Art Unit 2624

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/Bhavesh M Mehta/  
Supervisory Patent Examiner, Art Unit 2624